

REMARKS

In response to the Office Action mailed December 21, 2001, Applicants have amended the title, the specification, the abstract and claim 1. Applicants have also cancelled claims 32 and 33. Claims 1-31 are presented for examination.

Applicants acknowledge with appreciation the indication of allowability of independent claim 1 and dependent claims 2-26. Applicants note, however, that claims 27-31, which depend from independent claim 1, were not considered by the Examiner in the Office Action mailed December 21, 2001.

As stated in the Restriction Requirement mailed August 17, 2001 (page 2):

Upon the allowance of a generic claim, applicant will be entitled to consideration of additional species which are written in dependent form

Because independent claim 1 is a generic claim from which claims 27-31 depend, Applicants request consideration and passage to allowance of claims 27-31.

Attached is a marked-up version of the changes being made by the current amendment.

Applicant : Fritzemeier et al.
Serial No. : 09/617,518
Filed : July 14, 2000
Page : 6

Attorney's Docket No.: 05770-132001 / AMSC-300

Applicants ask that all claims be allowed. Enclosed is a petition for a one month extension of time for responding to the outstanding office action. Please apply any other charges or credits to Deposit Account No. 06-1050.

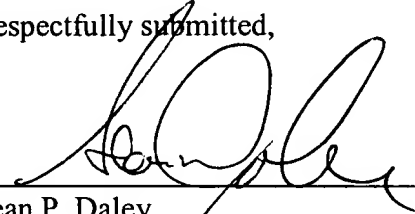
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Respectfully submitted,



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Applicant : Fritzemeier et al.
Serial No. : 09/617,518
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Page : 7

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Version with markings to show changes made

In the specification:

Title beginning on page 1, first line with the following rewritten title:

--ENHANCED HIGH TEMPERATURE COATED [SUPERCONDUCTORS]
SUPERCONDUCTOR ARCHITECTURE--

Paragraph beginning at page 11, line 1 has been replaced with the following rewritten paragraph:

-- These methods are described in U.S. Patent Application Serial No. 09/617,518 [____], filed on even date herewith, and entitled "Enhanced Purity Oxide Layer Formation," which is hereby incorporated by reference.--

Paragraph beginning at page 15, line 6 has been replaced with the following rewritten paragraph:

-- More details are provided in commonly owned United States Patent Application Serial No. 09/500,701, filed on February 9, 2000, and entitled "Oxide Layer Method," and commonly owned United States Patent Application Serial No. 09/615,669 [____], filed on even date herewith, and entitled "Oxide Layer Method," both of which are hereby incorporated by reference in their entirety. --

Paragraph beginning at page 17, line 15 has been replaced with the following rewritten paragraph:

-- These methods are described in commonly owned U.S. Provisional Patent Application No. 60/166, 140, filed November 18, 1999, and entitled "Multi-Layer Articles and Methods of Making Same," and commonly owned U.S. Patent Application Serial No. 09/615,999 [____], filed on even date herewith, and entitled "Multi-layer Articles and Methods of Making Same," both of which are hereby incorporated by reference. --

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Paragraph beginning at page 18, line 25 has been replaced with the following rewritten paragraph:

-- These methods and compositions are described in commonly owned U.S. Provisional Patent Application Serial No. 60/166, 297, filed on November 18, 1999, and entitled "Superconductor Articles and Compositions and Methods for Making Same," and commonly owned U.S. Patent Application No. 09/616,810 [____], filed on even date herewith, and entitled "Superconductor Articles and Compositions and Methods for Making Same," both of which are hereby incorporated by reference. --

Paragraph beginning at page 21, line 21 has been replaced with the following rewritten paragraph:

-- These methods are described in commonly owned U.S. Provisional Patent Application Serial No. 60/166,145, filed on November 18, 1999, and entitled "Methods and Compositions for Making a Multi-Layer Article," and commonly owned U.S. Patent Application No. 09/615,991 [____], filed on even date herewith, and entitled "Methods and Compositions for Making a Multi-layer Article," both of which are hereby incorporated by reference. --

Paragraph beginning at page 23, line 13 has been replaced with the following rewritten paragraph:

-- These methods are described in commonly owned U.S. Patent Application Serial No. 09/616,811 [____], filed on even date herewith, and entitled "Methods of Making A Superconductor," which is hereby incorporated by reference. --

Paragraph beginning at page 27, line 8 has been replaced with the following rewritten paragraph:

-- More details are provided in commonly owned U.S. Patent Application Serial No. 09/616,566 [____], filed on even date herewith, and entitled "Control of Oxide Layer Reaction Rates," which is hereby incorporated by reference. --

In the claims:

Claims 32 and 33 were cancelled.

Claim 1 was amended as follows.

- 1. (Once Amended) A multi-layer high temperature superconductor, comprising:
a first high temperature superconductor coated element, comprising:
a first substrate;
at least one first buffer deposited on the first substrate;
at least one first high temperature superconductor layer supported by the first buffer; and
a first cap layer supported by the first high temperature superconductor layer; and
a second high temperature superconductor coated element, comprising:
a second substrate;
at least one second buffer deposited on the second substrate;
at least one second high temperature superconductor layer supported by the second buffer; and
a second cap layer supported by the second high temperature superconductor layer;
wherein the first and second high temperature superconductor coated elements are joined at the first and second cap layers.--

In the abstract:

This invention relates to a practical superconducting conductor based upon biaxially textured high temperature superconducting coatings. In particular, methods for producing flexible and bend strain-resistant articles and articles produced in accordance therewith are described which provide improved current sharing, lower hysteretic losses under alternating current conditions, enhanced electrical and thermal stability and improved mechanical properties between otherwise isolated films in a coated high temperature superconducting (HTS) wire.

Multilayered materials including operational material which is sensitive to bend strain can be constructed, in which the bend strain in the region in which such operational material is located is minimized. The invention also provides a means for splicing coated tape segments and for termination of coated tape stack ups or conductor elements. []

In one embodiment, a multi-layer high temperature superconductor is provided and includes first and second high temperature superconductor coated elements. Each element includes a substrate, at least one buffer deposited on the substrate, a high temperature superconductor layer, and a cap layer. The first and second high temperature superconductor coated elements are joined at the first and second cap layers.